

**IMMORTALIZATION OF  
HUMAN POST-MITOTIC CELLS**

**5     Abstract of the Disclosure**

10     The present invention provides an immortalized human  
cardiomyocyte cell line and an immortalized human  
vascular smooth muscle cell line. The present invention  
15     further provides a method for preparing a human  
immortalized cell line derived from a post-mitotic  
primary cell culture which comprises: (a) providing a  
cell culture of human primary post-mitotic cells, (b)  
providing a human fibroblast cell line which: (i) has  
20     been transfected with a replicable nucleic acid vector  
which immortalizes the fibroblast cell line, (ii) has  
been depleted of its mitochondrial DNA thereby rendering  
the fibroblast cell line subject to growth selection due  
incapacity to perform glycolysis; (c) co-culturing the  
25     human fibroblast cell line of step (b) with the cell  
culture of step (a) under appropriate conditions so that  
cell fusion occurs; and (d) growing the fused cells from  
step (c) in a selection medium which selects for cells  
with mitochondrial DNA, (e) selecting cells from step (d)  
which contain a nucleus which originated from the cells  
of the primary culture, so as to prepare the human  
immortalized cell line.

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